DII.10010P3.SOL251.JMTK_SVD_1.0

Defense Information Infrastructure (DII)

Common Operating Environment (COE)

Software Version Description (SVD) for Joint Mapping Tool Kit (JMTK) Component Version 1.0.0.10P3 for Solaris 2.5.1

Document Version 1.0

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1. Scope

1.1 Identification

This SVD documents Joint Mapping Tool Kit (JMTK) Component, Version 1.0.0.10P3.

JMTK is hosted on the following platform:

- Hardware: Sparc 10/20
  Operating System: Solaris 2.5.1
  DII COE Kernel: 3.0.0.3 (with patches P2, P3 (for Ultra Sparc *only*), P4, P5, and P6)

1.2 System Overview

The Joint Mapping Toolkit is the DII COE child segment that provides the core mapping capabilities for the DII COE C4I system.

When distributed by the National Imagery and Mapping Agency (NIMA), Joint Mapping Tool Kit consists of three logically distinct integrated products:

- Joint Mapping Visual (JMV)
- Joint Mapping Analysis (JMA)
- Joint Mapping Spatial Database (JMS)

This software applies solely to the visualization component.

1.3 Product Information

Product Qualification
Test and evaluation (T&E) were performed at the INRI San Diego facility prior to delivery of the software.

Product Restrictions
Intellectual property rights to deliverables defined in this document are covered by the copyright license under the clause in DFARS 252.227-7013 (Nov 1995).

Product Dependencies
This patch is dependent on a properly installed and configured Operating System, Kernel, and JMTK (1.0.0.10) for UB 3.0.2.5.

2. Referenced Documents

The following documents are referenced elsewhere in this SVD:

2.1 Government Documents

a. *Defense Information Systems Agency. Defense Information Infrastructure (DII) Common Operating Environment (COE) Integration and Runtime Specification (I&RTS), Version 3.0.* 1 January 1997.

2.2 Non-government Documents

a. *Computer Sciences Corporation. DRAFT Software Requirements Specification for the Joint Mapping Tool Kit (JMTK) of the Defense Information Infrastructure (DII) Common Operating Environment (COE). Release 1.0.* 9 October 1995.

b. *Version Description Document, Unified Build version 3.0.2.5, INRI.* 14 April 1997.

c. Chart API
- Chart API 3.02 (DII COE SDE-API-CHART-3.02. (9/30/96)
- 3.0.2.5 update (See Section 3.1, Inventory of Materials Released)

3. Version Description

3.1 Inventory of Materials Released

Magnetic media:

The following unclassified tape is included in the delivery.

- JMTK Version 1.0.0.10P3 Segment on an 8mm EXABYTE cartridge, intended for Sparc 10/20 hardware environment. This segment can be run on DII COE Kernel Version 3.0.0.3 (with patches P2, P3 (for Ultra Sparc *only*), P4, P5, and P6) supporting Solaris Operating System Version 2.5.1.

Documents:

For each document listed below, two laser originals and a disk containing a Word 6.x file accompany the delivery:

- *Installation Procedures (IP) for Joint Mapping Tool Kit (JMTK) Version 1.0.0.10P3*, DII.10010P3.SOL251.JMTK_IP_1.0, 30 October 1997.

- *Software Version Description (SVD) for Joint Mapping Tool Kit (JMTK) Version*

1.0.0.10P3, DII.10010P3.SOL251.JMTK_SVD_1.0, 30 October 1997.

- *Software Test Report (STR) for Joint Mapping Tool Kit (JMTK) Version 1.0.0.10P3*, DII.10010P3.SOL251.JMTK_SVD_1.0, 30 October 1997.

3.2 Inventory of Software Contents

A listing of all computer libraries and files for JMTK 1.0.0.10 is located in Appendix B.

3.3 Changes Installed

A listing of all software changes incorporated into the software since JMTK 1.0.0.10 (for UB 3.0.2.5) is located in Appendix A.

3.4 Waivers

None.

3.5 Adaptation Data

None.

3.6 Installation Instructions

Installation instructions are located in:

- *Installation Procedures (IP) for Joint Mapping Tool Kit (JMTK) Version 1.0.0.10P3*, (DII.10010P3. SOL251.JMTK_IP_1.0), 30 October 1997.

The following configuration is recommended:

- RAM: 128 MB minimum; 192 optimum
- Disk space: 2 GB
- Swap Space: 300 MB

3.7 Possible Problems and Known Errors

A listing of all problems and known errors for JMTK 1.0.0.10P3 is located in Appendix C.

4. Notes

4.1 Acronyms

C4I	Command, Control, Communications, Computers, and Intelligence
COE	Common Operating Environment
DAT	Digital Audio Tape
DII	Defense Information Infrastructure
DFARS	Defense Federal Acquisition Regulation Supplement
GB	Gigabyte
HP-UX	Hewlett-Packard UNIX-based Operating System
INRI	Inter-National Research Institute, Inc.
IP	Installation Procedures
JMTK-V	Joint Mapping Tool Kit Visualization
MB	Megabyte
NIMA	National Imagery and Mapping Agency
RAM	Random Access Memory
SUM	Software User=s Manual
SVD	Software Version Description
TAC-3/TAC-4	Tactical Advanced Computer, Version 3/4
UB	Unified Build

Appendix A: Changes Installed

The following global software problem reports (GSPRs) have been implemented in JMTK Version 1.0.0.10.

Priority 1

GSPR Number: D70459

AGENCY Number: DU00772

INRI Number: 30200000961

Short Description:
Fire control tracks not displayed

Long Description:
Submarine fire control tracks are not displayed on the JMCIS Chart when MTST is enabled under special controls and DR enabled under attribute toggles. HP 10.20/DII Kernel 3.0.1.0/DII COE 3.0.2.5

Action:
Implemented single point expansion to the MTST algorithm. When MTST is enabled fire control tracks will display and their MTST solution will appear and will expand correctly.

PRI: 1

JMTK

GSPR Number: D70973

AGENCY Number: AK00146

INRI Number: 30200001173

Short Description:
UBCHART fails to properly interpret the display environ

Long Description:
UBCHART fails to properly interpret the display environment variable which causes a failure to generate the proper display directory in /TMP/VIDS (creates the directory ": " vice ": 0" and within the "DIRECTORY", the Chart Unix socket reads "CHART" vice "CHART0". This problem was identified as a result of loading Kernel Patch 1 on HP and Kernel Patch 4 on Solaris which change environment variables. Software Load: UB core 3.0.2.5/P1.

Action: Problem corrected. Processing of display variable corrected.

PRI: 1

JMTK

Priority 2

GSPR Number: D70467

AGENCY Number: DU00874, UB06039

INRI Number: 30200000868

Short Description:
GEOSIT on LOBs.

Long Description:
Problem description: GEOSIT doesn't correctly project the MTST solution for LOBs. ACT Inputs: OTCIXS, TADIXS, TRE, NTDS, SRN-25 ACT Outputs: OTCIXS, TADIXS, FOTC BCST, CTC BCST, DTC BCST H/W role: TAC-3/CV - CT

Action:
Modified logic so that when the TacPlot is in "GSIT" mode and AOU is turned on for a LOB track, the MTST solution ellipse is displayed.

PRI: 2

JMTK

GSPR Number: D71025

AGENCY Number: None

INRI Number: 30200001082

Short Description:
Circle and Ellipse Overlays not plotting correctly for small values.

Long Description:
Testing VTS 3.1.0.1 using UB 3.0.2.4 found that plotting a Circle OVERLAY with a radius less than 1.0 nautical mile is plotting/drawing incorrectly. The values under CIRCLE DATA (AREA, CENTER, and RADIUS) are all correct; however, the circle is being drawn using a default radius value of 1.0 nautical mile. With an Ellipse if either value, SEMI-MAJOR or SEMI-MINOR, is less than 0.5 nm, again, the data is recorded correctly under ELLIPSE DATA but it defaults the value (the one less than 0.5 nm) to 0.5 nm in the drawing. Cannot plot a CIRLCE OVERLAY with a radius value less than 1.0 nm or an ELLIPSE OVERLAY with a semi-major/minor value less than 0.5 nm.
1) Tested using UB 2.2.0.5P9 and both Circle and Ellipse OVERLAYS plotted correctly using a radius values less than 1.0 nm and semi-major/semi-minor values less than 0.5 nm.
2) Tested using UB 3.0.2.5 and the same problem described in the Long Description existed.
3) Tested VTS Vessel Alarms and they worked correctly against the accurate CIRCLE/ELLIPSE DATA. The problem is that a track will pass right through the incorrectly plotted CIRCLE/ELLIPSE OVERLAY without alarming. The alarm does not occur until the track actually passes over the "phantom" OVERLAY that exists with the accurate CIRCLE/ELLIPSE DATA values. Although the priority
of this STR is a 3 - the precedence to VTS is much higher. This problem manifests itself most notably when an alarm is defined using the incorrectly drawn Overlay.

It makes it appear as if the Alarms package is not working - when in fact it is. The CG is already struggling with Operators not being confident of the Alarms package.

Action:
Problem corrected. Circles and ellipses may now have radii as small as .001NM.

PRI: 2

JMTK

Priority 3

GSPR Number: D71022

AGENCY Number: None

INRI Number: 30200001059

Short Description:
Black Bands incorrectly displayed around ADRG images

Long Description:
Black Band are incorrectly displayed around ARDG images. The problem has been isolated to the Trimimage() and Blockimage() functions in LoadADRG.

Action:
Modified logic so that the charts do not stop plotting at the overlap lines between ADRG maps. This eliminates the Black Bands.

PRI: 3

JMTK

GSPR Number: D71024

AGENCY Number: SIR-0001

INRI Number: 30200001077

Short Description:
Increase limit of Stored Screens to allow storage of 50 Charts. (NST Item 3-5)

Long Description:
This STR was requested by the VTS STAN team which represents the operators at all VTS sites. Increase the limit of Stored Screens to allow storage of 50 Charts. Remove the current artificial limit of 20 Charts stored. Currently when more than 20 Charts are attempted to be stored, the operator receives a notice that the limit has been reached.

Action:
Change implemented. Up to 50 charts may now be stored.

PRI: 3

JMTK

GSPR Number: D71028

AGENCY Number: None

INRI Number: 30200001095

Short Description:

Flex Track tags no longer change on the fly.

Long Description:
In UB 3.0.2.4, the file associated with the Flex Track tags could be edited and the change would take effect on the next movement of the track. In UB 3.0.2.5 - Now we have to log out and log in, in order for the change to take effect.

Action:
Added flag that is used to dynamically determine when the flex tracks is used instead of symbol labels. Added support to display by individual chart.

PRI: 3

JMTK

Invalid STRs

GSPR Number: D70471

AGENCY Number: DU00878, UB09119

INRI Number: 30200000895

Short Description:
Geographic Situation

Long Description:
Geographic Situation does not work correctly. For example, the MTST course and speed solution from the track history analysis TDA at system time was 180T at 20KNTS. This track was then selected and the GEOSIT function selected. Current time was then advanced and the track did not move south. It appears that GEOSIT dead reckons the track as long as the GEOSIT time is within the time range of the History Points. Once the GEOSIT time is either in the past or future relative to the tracks History Points, the track stops being dead reckoned and only the AOU grows. Problem justification: This is critical data base management tool. The operator can not determine if different types of tracks (ex ELINT and a platform track) belong to one another unless this tool functions correctly. Also, this tool is important for determining what the tactical situation might look like in the future relative to current time. Recommendations: Alternatives are to either correct the MTST problem in the CCS MK II OTH subsystem, correct the MTST and GEO-SIT problem in JMCIS and add the capability to display the engagement plan on JMCIS, or all of the above. The GEO-SIT function should display the MTST smoothed solution for all tracks in the time selected by the operator.

Action:
Invalid. Problem could not be recreated. Geosit time was advanced into the future and the track continued to be dead reckoned.

PRI: 2

JMTK

Appendix B: Inventory of Software Contents

The following list identifies computer libraries and files for JMTK 1.0.0.10.

JMTK.P3/Integ:
VSOutput

JMTK.P3/Scripts:

.cshrc.JMTK	.cshrc.session

JMTK.P3/SegDescrip:

DEINSTALL	PostInstall	ReleaseNotes	SegInfo	SegName
VERSION	Validated			

JMTK.P3/bin:

Cartographer	CenterWidth	ChartInset	
DMADraw	DMALoad	DMASpatial	
DestroyChart	DrawDTED	DrawRaster	
DrawVector	JMTKChart	KillChart	
KillJMTK	LoadDTED	LoadRaster	
MapColorCtl	MapControl	MapIntensity	
MapLoad	Overlays	Pimtracks	
RPFDraw	RPFLoad	RUN_JMTK_ChartInset1	
RUN_JMTK_DEMO	RUN_JMTK_MENU	RunJMTK	
TacPlot	TestPolyline	VEDEdit	
VEDMgr	VEDMount	mkmapdir	

JMTK.P3/data:

System/	VDD/	fonts/	lostUBMapData.tar

JMTK.P3/data/System:

TrackProgs	TrackSymbols

JMTK.P3/data/VDD:

vdd.html	vdd_ToC.html

JMTK.P3/data/fonts:

chart-13.pcf	chart-13b.pcf	chart-21.pcf	chart-21b.pcf
chart-31.pcf	chart-31b.pcf	chart-41.pcf	chart-41b.pcf
chart-51.pcf	chart-51b.pcf		

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Appendix C: Possible Problems and Known Errors

The following list identifies known problems for JMTK 1.0.0.10.

GSPR	Agency	INRI	Pri	Short Description
D70453	DU00756	30200000945	2	MTST solution not updated on screen.
D71037	None	302000001121	2	VPF problems in CR1.

A temporary workaround for GSPR D71125, JMTK DeInstall is Destructive, is included with JMTK 1.0.0.10P3. This workaround copies affected UB MapData to a backup file which can be restored to the newly installed JMTK version. A permanent solution is anticipated at a future date.

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